C 21422 (Pages : 2) Name.....

Reg. No.....

EIGHTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, APRIL 2017

CS 09 801 – COMPUTER ARCHITECTURE AND PARALLEL PROCESSING

(2009 Admissions)

Time : Three Hours Maximum : 70 Marks

Part A

Answer **all** *questions.*

1. State the purpose of using compilers.
2. List the types of addressing mechanisms used in computer architecture.
3. Mention about the compiler and hardware support used for instruction level parallelism.
4. When does a cache miss occur ?
5. Define synchronization.

(5 × 2 = 10 marks)

Part B

Answer any **four** *questions.*

6. Explain the pipelining with multicycle operations in detail.
7. Explain the tasks of a computer designer.
8. Write a note on compiler vectorization.
9. Explain about the protection mechanism used in Intel Pentium processors.
10. Explain the principle of operation involved in connecting more than two computers with an example.
11. Explain the models of memory consistency.

(4 × 5 = 20 marks)

Part C

Answer **all** *questions.*

12. Explain the various hazards in detail.

Or

13. Explain in detail about the quantitative principles of computer design.

Turn over

14. With a neat sketch, explain about the vector architecture and the vector processing mechanisms.

Or

15. Explain the concept of dynamic scheduling and dynamic hardware prediction in detail.

16. Describe the working of the virtual memory and the protection mechanism used in it.

Or

17. Explain in detail about the working principles of I/O systems.

18. Explain the centralized shared memory architecture in detail.

Or

19. Explain the distributed shared memory architecture in detail.

(4 × 10 = 40 marks)